

Your Partner in Improving Operational Efficiency, Saving Money, and Reducing Emissions

What is Natural Gas STAR?

Natural Gas STAR is a flexible, voluntary partnership that encourages oil and natural gas companies—both domestically and abroad—to adopt proven, cost-effective technologies and practices that improve operational efficiency and reduce methane emissions. Methane is the primary component of natural gas and is emitted as a result of oil production and in all aspects of the natural gas industry, from drilling and production, through gathering and processing to transmission and distribution.

Working collaboratively with the oil and natural gas industry in the United States since 1993, Natural Gas STAR has provided a framework to encourage partner companies to implement methane emissions reducing technologies and practices and document their voluntary emission reduction activities. As a result, EPA has compiled a comprehensive suite of technical information on proven cost-effective methane mitigation technologies and practices that have been successfully implemented by partner companies. In 2006, in support of the Methane to Market Partnership, EPA expanded the Program to include international operations, significantly increasing opportunities to reduce methane emissions from the oil and natural gas sector worldwide.

Why is Reducing Methane Emissions Important?

Oil and natural gas operations are the largest human-made source of methane emissions in the United States and the second largest human-made source of methane emissions globally. Given methane's role as both

a potent greenhouse gas and clean energy source, reducing these emissions can have significant environmental and economic benefits.

By working through the Natural Gas STAR Program, EPA and the oil and natural gas industry are preventing methane losses and delivering more natural gas to markets around the world. These efforts are not only conserving natural gas resources but also generating additional revenues, increasing operational efficiency, and making positive contributions to the global environment.

“Our mission is simple: to reduce methane emissions collaboratively and in a cost-effective manner using the latest technologies and practices. Reduced methane emissions mean more natural gas to market, greater energy security for our nation, increased revenue for partners, and reduced greenhouse gas emissions.”

— **Roger Fernandez,**
U.S. EPA Natural Gas STAR,
Team Leader

“We are pleased and proud that many of our member companies are part of the Natural Gas STAR Program. Participating in the Program makes sound business sense. The data has clearly shown positive results in reducing greenhouse gas emissions, demonstrating that voluntary, cooperative programs are an effective tool to simultaneously meet environmental goals and put more natural gas into the market for consumers.”

— **William Whitsitt,**
American Exploration &
Production Council, President



Join Natural Gas STAR



What are the Benefits to Participating in Natural Gas STAR?

Created in collaboration with industry, the Natural Gas STAR Program serves as a credible and trusted resource for oil and natural gas companies.

Participation in the Natural Gas STAR Program has the following key benefits:

- **Information Sharing and Technology Transfer**—EPA facilitates Technology Transfer and Annual Implementation Workshops and publishes detailed *Lessons Learned Studies* and *Partner Reported Opportunities (PRO) Fact Sheets*; technical reports and studies; and a quarterly newsletter to help partners learn about new and innovative technologies and practices.
- **Program and Technical Assistance**—Natural Gas STAR offers a full range of Program support and technical assistance to partners. Through such services as project- and operational-level analyses, technical workshops, and administrative Program support, EPA provides guidance that helps partners reap the full economic and environmental benefits of reducing methane emissions. The Natural Gas STAR team includes technical experts from all sectors of the oil and natural gas industry, as well as communication and outreach professionals.
- **Peer Networking**—Partners can participate in Technology Transfer Workshops, Annual Implementation Workshops, and Web-based communications to build strong networks with industry peers and keep up on industry trends, initiatives, and the latest technologies.
- **Voluntary Record of Reductions**—Through Program participation and reporting, companies create a permanent record of their voluntary accomplishments in reducing methane emissions. Each year, EPA provides post-reporting feedback to partners through individual detailed summary reports that highlight their participation and accomplishments within the Program.

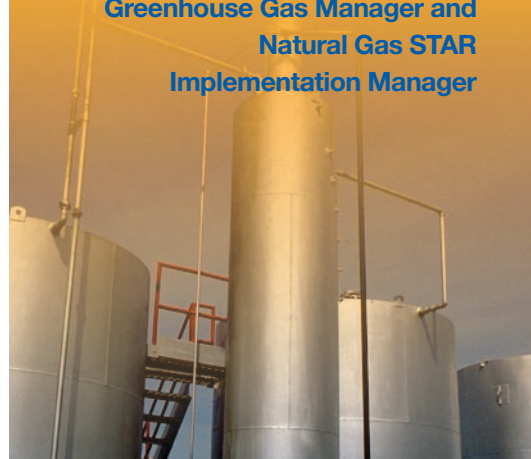


Every greenhouse gas has a global warming potential (GWP)—the measure of its ability to trap heat in the atmosphere relative to CO₂. Methane is referred to as a potent greenhouse gas because it has a GWP of 23. This means that methane is 23 times more powerful than CO₂ at trapping heat in the atmosphere over a 100-year period.

“Participating in the Natural Gas STAR Program is a simple yet powerful way for Northern Natural Gas to create a permanent record of the cost-effective methods to avoid methane emissions. There are many facets to our program: an implementation plan that guides our participation, an information database that stores the methods of avoiding methane emissions and ensures accurate data, and a reporting plan that allows Northern to communicate its accomplishments to outside sources.

Northern—a MidAmerican Energy Holdings Company—operates under its corporate environmental RESPECT policy of Responsibility, Efficiency, Stewardship, Performance, Evaluation, Communication and Training. Participation in the Natural Gas STAR Program is an extension of its corporate environmental RESPECT policy.”

—Rick Loveless,
Northern Natural Gas,
Greenhouse Gas Manager and
Natural Gas STAR
Implementation Manager





- **Public Recognition**—EPA provides recognition, honors, and distinctions to highlight partner achievements at an annual awards ceremony, in articles in the Program newsletter and industry journals, public service announcements, and technical studies and fact sheets. EPA also helps partners communicate Program achievements to shareholders, customers, and the public.

How Does the Natural Gas STAR Program Work?

Becoming a Natural Gas STAR partner and participating in the Program involves the following steps:

Step 1 – Sign a One-Page Memorandum of Understanding

This important step initiates the Partnership, demonstrates the company's commitment to the Program, and identifies company points of contact. By signing the MOU, the company is signifying its intent to evaluate current and future technologies and management practices that reduce methane emissions, implement them when cost-effective and report these activities to EPA on an annual basis. MOU forms for each oil and natural gas industry sector and international companies are available online.

Step 2 – Develop an Implementation Plan

Natural Gas STAR Implementation Plans facilitate development of a strategy for how partners will identify non-regulatory methane emission reduction activities they are undertaking, plan new activities, and develop mechanisms for tracking methane emission reduction data and activities. Companies develop this plan within 6 to 12 months of joining. Partner approaches to developing an Implementation Plan vary. To provide guidance to partners and to minimize the administrative burden, Implementation Plan Forms are available online and Natural Gas STAR staff can provide any necessary assistance.



Natural Gas STAR partners are making a difference! In 2007 alone, domestic partners reduced methane emissions by 92.5 billion cubic feet (Bcf)—equivalent to removing approximately 6.8 million passenger

vehicles from the road for one year or 8.5 million acres of pine or fir forests storing carbon for one year. This added nearly \$648 million to natural gas sales (based upon an average gas price of \$7.00 per thousand cubic feet). Since 1993, the Program has helped realize nearly 677 Bcf of methane emissions reductions domestically. Natural Gas STAR International partners reported 6.7 Bcf in emissions reductions for 2007 and a total of 14.4 Bcf since the inception of the Natural Gas STAR International Program.

“At Devon, we are committed to protecting the environment and being a good neighbor in communities where we live and work. That’s why we joined EPA’s Natural Gas STAR Program in 2003. Since we began participating in the Program, we have reduced our methane emissions over 27 billion cubic feet. Since 1990, we have reduced methane emissions by over 31 billion cubic feet. To put that into perspective, that is enough natural gas to heat over 450,000 homes for a year. Further, the reduction of greenhouse gases is equivalent to planting 3.8 million trees or taking 2.75 million cars off the road for a year. Emission reduction is an important part of being an environmental steward, and we are proud to be associated with a project of this magnitude.”

—Steven O’Connell,
Devon Energy,
Central Division EHS Supervisor
and Natural Gas STAR
Implementation Manager





Step 3 – Execute the Program

The Implementation Plan provides a roadmap for how partners will actually execute the Program within their company. The Natural Gas STAR Program is available to provide assistance in identifying and prioritizing technologies and practices based on company-specific circumstances. However, to reap the full benefits of participation, it is ultimately up to partners to implement these cost-effective technologies and practices and continue to expand on their methane emission reduction activities.

Step 4 – Submit an Annual Progress Report

After one full calendar year of participation in the Program, partners begin submitting annual reports documenting the previous year's emission reduction activities and corresponding methane emissions reductions. Natural Gas STAR offers convenient reporting options. Partners can choose between submitting data via the easy Online Reporting System, using hardcopy annual reporting forms, or using their own custom format. To provide guidance to partners, EPA Natural Gas STAR Program Managers and STAR Service Representatives can assist as necessary.

By participating in the Natural Gas STAR Program, partners demonstrate leadership in their field by implementing cost-effective technologies and practices that improve operational efficiency, reduce the emissions of methane, increase natural gas supply, save money, and protect the environment. Additionally, through Program participation, partners create a credible record of their voluntary accomplishments and receive EPA recognition.

For detailed information on the Natural Gas STAR Program, key components and benefits of participation, and technical resources available, visit epa.gov/gasstar.

As part of the Annual Natural Gas STAR Implementation Workshop, EPA publicly recognizes partners in the following categories:

Distribution Partner of the Year

**Gathering and Processing
Partner of the Year**

Production Partner of the Year

Transmission Partner of the Year

Continuing Excellence

For a complete list of Natural Gas STAR Award Winners, visit epa.gov/gasstar/newsroom/awardwinners.html.

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